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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,739	05/09/2001	Ronald Shinogle	00-151	3864

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EXAMINER

EVANS, ROBIN OCTAVIA

ART UNIT	PAPER NUMBER
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3752

8

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,739

Applicant(s)

SHINOGL, RONALD

Examiner

Robin O. Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. The amendment presented in communication filed April 17, 2003 as Paper No. 6 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Foreign Patent No. 151 793 to Auwarter et al.

Auwarter et al. shows a fuel injector having an injector body 4, nozzle outlet 3, and a nonmetallic insulator 11, 15 attached to a portion of the outer surface of the body.

The method steps recited in claim 9 will inherently be performed by the assembly and usage of the injector shown by Auwarter et al.

4. Claims 1, 3, 4 and 8, 9 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kato et al.

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Kato et al. shows a fuel injector 117 with an insulator 414 attached to the other surface of the body by collar 450.

As to claim 3 and 4 and the limitation that the insulator is made from ceramic material or is ceramic, see column 12, lines 11-13.

As to claim 8 and the limitation that the insulator is sufficiently resistant to heat transfer, see column 12, lines 31-51, which discloses that the body of the fuel injector is insulated from the cylinder head of the engine and therefore the fuel injector is prevented from overheating.

The method steps recited in claim 9 will inherently be performed by the assembly and usage of the injector shown by Kato et al.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Auwarter et al.

Auwarter et al. shows all of the claimed limitations but does not show the tip defining a “plurality of nozzle outlets” or the insulator being ceramic. Since it is well known in the art of fuel injectors to have either a single orifice or a plurality of nozzle outlets, it is deemed that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made Auwarter’s fuel injector with a plurality of nozzle outlets so as to be able to inject more fuel during each injection period to have a quick starting engine. Although it is unclear

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whether the insulator shown by the Foreign Patent is ceramic, it is deemed that since ceramic is a well known insulator it would have been obvious to one of ordinary skill in the art at the time the invention was made to have use ceramic as the insulator since ceramic is known as a good insulator which as a heat transfer rate which is smaller than most other heat insulators so that no overheating is insured.

As to claim 5 and the limitation that the insulator is less than about 3 millimeters thick, it is deemed that the thickness of the insulator will be determined by the user having a desired result in mind.

As to claim 6 and the limitation that the insulator is sufficiently resistant to heat transfer such that the temperature of said valve seat would not reach a tempering temperature if exposed to conditions corresponding to engine compression release braking, it is deemed that the user when determining the insulator will choose a insulator which will achieve the results desired and is chosen so that the injector will not experience overheating. Therefore it would have been obvious for one of ordinary skill in the art when choosing an insulator to choose one, which will meet all of the requirements and results desired by the user.

7. Claims 2, 5-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al.

Kato et al. discloses all of the claimed limitations but does not show the nozzle outlet being a plurality of outlets. Since it is well known in the art of fuel injectors to have either a single orifice or a plurality of nozzle outlets, it is deemed that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made Auwarter's fuel

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injector with a plurality of nozzle outlets so as to be able to inject more fuel during each injection period to have a quick starting engine.

As to claim 5 and the limitation that the insulator is less than about 3 millimeters thick, it is deemed that the thickness of the insulator will be determined by the user having a desired result in mind.

As to claim 6 and the limitation that the insulator is sufficiently resistant to heat transfer such that the temperature of said valve seat would not reach a tempering temperature if exposed to conditions corresponding to engine compression release braking, it is deemed that the user when determining the insulator will choose a insulator which will achieve the results desired and is chosen so that the injector will not experience overheating. Therefore it would have been obvious for one of ordinary skill in the art when choosing an insulator to choose one, which will meet all of the requirements and results desired by the user.

Response to Arguments

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

9. As to applicant's argument that Kato et al. does not disclose that the insulator is not attached to the outer surface of the injector, Kato et al. discloses that the insulator is press (or attached) to the outside surface of the injector by collar 450 as shown in Figure 17.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robin O. Evans whose telephone number is (703) 305-5766. The examiner can normally be reached on Monday-Thursday, 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on (703) 308-2087. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7766 for regular communications and (703) 308-7766 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



Robin O. Evans
Primary Examiner
Art Unit 3752

7/14/03

roe
July 14, 2003